[excerpt from Property Summary Report on use of Elastomeric Paint]

DETAILED DESCRIPTION OF APPLICATION: 04/12/05

Review of request to repaint the Ursuline Convent, garage and fence with Elastomeric paint.

STAFF ANALYSIS:

04/12/05

- A basic tenant and commandment of any and all introductions of new technology to historic structures is that the material or procedure should be easily reversible or removable. Elastomeric paint by the manufacturer's and applicant's admission is "near permanent," with a lifetime guarantee, and as noted in the application dated March 31, 2005, "we cannot apply another coating over the elastomeric."
- The application of elastomeric paints and other highly water-proof or water resistant paints was allowed and executed in the past with the best intentions and knowledge of preservation professionals and practitioners, but extensive scientific testing and the physical and structural failure of numerous buildings, most recently the Old State Capitol in Baton Rouge, have forced the scientific and preservation communities to conclude that these highly effective paints are disastrously inappropriate for historic masonry walls and structures in all high humidity/high temperature climates and especially in sub-tropical and tropical climes like New Orleans.
- As recently outlined in extensive research by VCC staff (listed below) for a related property in the district, the use of elastomeric paints and or any other highly water-proof or water-resistant paints on historic masonry and stucco surfaces is unacceptable and dooms the structures to eventual surface failure, structural failure, and potentially interior toxic mold infection, again, as recently occurred with the Old State Capitol in Baton Rouge.
- Slide images are available, taken in the past month or so, that specifically show some of this deterioration is present on the Ursuline Convent fence.
- The problem with this technology, and others like it, is not so much its failure but its semi-permanence as a water-proof coating. As mentioned and extensively documented in previous applications, these paints are excellent and

long lasting water barriers. As historic walls absorb ground water; or have water intrusion from micro tears in the paint; or have water intrusion around windows; or have water intrusion around drainage gutters, millwork, roofs and other fenestration in the skin; and the walls readily absorb the moisture from all these entrance points, then under the intense heat and humidity of our atmosphere the water cannot escape and attains toxic levels in the masonry that ultimately destroy the lime based mortars and stucco coatings. These failures eventually require that the masonry coatings be removed, bricks and mortar repaired, stucco reapplied and the surface coated in an historic lime based paint or other highly breathable coating. These damages are inevitable, well documented and the exclusion of these paints in our type of environment is now a standard in the preservation field, that staff believes if ignored, would be lethal to the buildings and possibly life threatening to its inhabitants, and should not be ignored.

- Remedies for the situation at the Ursuline Convent, the oldest structure in the Mississippi River Valley, are best accomplished by removal of the elastomeric coatings and salvaging the masonry before any further damage occurs. It is important to take these actions before this national monument is possibly irreparably damaged by the best intentions, and at the time, best knowledge of past practitioners.
- Some potential solutions are the use of soda or walnut hull pressure applications that remove soft membranes such as paint without damaging harder masonry or metal sub-surfaces. The importance of the Ursuline Convent requires that we investigate the current state of the art of these removals and that repairs are initiated before more damage occurs.
- As mentioned at the March 8, 2005 AC meeting to this applicant, VCC staff offers to work with the applicant and the National Center for Preservation Technology and Training (NCPTT), The National Trust, The Department of Interior, The State Historic Preservation Office (SHPO), Dr. Eugene Cizek, Dr. Mary Stiegel, Mr. John Speweik with the U.S. Heritage group in Chicago, an international expert on masonry and experienced in elastomeric repair solutions, Chaux Vive and any other appropriate preservation agencies to reach a sanctioned solution to this severe problem.

Recent research and recommendations by preservation professionals against the use of elastomeric paint in this environment:

Preservation Brief 1: The Cleaning and Waterproof Coating of Masonry Buildings

This policy brief is issued by the National Park Service to serve as a guideline for the appropriate cleaning and repair of masonry structures. It was completed in 2000 by Robert C. Mack, FAIA and Anne Grimmer. Mr. Mack is a principal in the firm of MacDonald & Mack Architects, a Minneapolis firm specializing in historic buildings. Anne Grimmer is a Senior Architectural Historian in the Technical Preservation Services Branch of the National Park Service. The authors go a step farther than any of the other consultants contacted.

The authors state, "If historic masonry buildings are kept watertight and in good repair, water-repellant coatings should not be necessary." (p.8) and "In most instances, waterproof coatings should not be applied to historic masonry." (p.9) and "Generally, however, waterproof coatings, which include elastomeric paints, should almost never be applied above grade to historic masonry buildings."(p.9) The authors take the position that water penetration is the result of poor mortar repair and maintenance and that moisture protection for historic structures is best achieved by regular and proper maintenance using historic materials.

• A similar recommendation is noted below, taken from a conservation guideline published by English Heritage in Great Britain. Their research and publication is considered by many to be at the center of stucco and masonry preservation for the world.

Practical Building Conservation, English Heritage Technical Handbook, Volume 3 - MORTARS, PLASTERS AND RENDERS by John Ashurst and Nicola Ashurst.

The guideline outlines various mortars and repair methods and discusses the painting of stucco. In the painting section, the authors warn, "Paints which provide a tough impervious envelope especially those which are sprayed on, should be avoided for historic buildings...Water and salt trapped behind an impervious paint film will result in loss of adhesion and can increase dampness in a building and the risk of persistent deterioration behind the paint...Limewash is likely to be the most usual finish." (p.26)

In preparation of this report, VCC staff contacted numerous professional experts to provide further background on the issue of "highly water-resistant paints."

National Center for Preservation Technology and Training:

Dr. Mary Stiegel

Mr. Andrew Farrell

Mr. Andrew Jacobs

Dr. Stiegel, a Ph.D. staff chemist with the NCPTT, directs the technological evaluation of modern chemicals for use on historic structures. Dr. Stiegel and her research assistants adamantly oppose the use of elastomeric paints, or any coating that claims high levels of water resistance/waterproofing, for the historic stucco-coated, masonry walls found in the Vieux Carre. She and her staff maintain that these highly water resistant/waterproof paints are extremely inappropriate for these walls and will result in the damage described above. Dr. Stiegel adamantly asserts that no currently known elastomeric paint can "breathe" or allow the high moisture assemblies of New Orleans to properly transpire that moisture. She further asserts that it is scientifically impossible for a product to be both highly water resistant/waterproof and to be able to "breathe" or allow the moisture to move out of a structure at any acceptable rate in our highly humid environment.

Mr. Andrew Jacobs, Dr. Stiegel's assistant, has conducted researched and has questioned specialists in Louisiana and around the nation. His consultation has included the State Historic Preservation Officer and staff members with the State Office for Historic Preservation, as well as officials with the Department of Interior among other agencies. In all instances, Mr. Jacobs reports that these preservation professionals adamantly state that elastomeric paints are inherently harmful and inappropriate for the conditions in the Vieux Carre.

• U.S. Heritage Group, Chicago:

Mr. John Speweik

Jerry Campbell and Associates, Baton Rouge:

Mr. Jerry Campbell

Mr. Speweik is currently involved with the rehabilitation work ongoing at the Old State Capitol in Baton Rouge. Sometime prior to 1986, the Capitol was painted

with an elastomeric covering. That coating is cited as the reason for the majority of its stucco surfaces to have failed. Further, the inherent change in the Old State Capitol's natural climate has resulted in the development of toxic mold contamination in the building, requiring an emergency, multi-million dollar repair and rehabilitation. Mr. Speweik, in conjunction with the Baton Rouge architectural firm of Jerry Campbell and Associates, is working to correct these conditions. Mr. Speweik is adamant that elastomeric paints, or any paints claiming a high degree of water resistance or waterproofing, are inappropriate for the masonry assemblies in the Vieux Carre.

Mr. Campbell emphatically stated, "Don't use elastomeric paints on any of the historic structures in the Vieux Carre, they don't breathe and they destroy those buildings." He is involved with the emergency repair of the Old State Capitol and other buildings with similar elastomeric paint problems.

Chaux Vive - Architectural Conservators:
Ms. Laura Ewen

Ms. Ewen is a partner in the New Orleans conservation firm, Chaux Vive. Ms. Ewen and her colleagues have years of experience working specifically on the conservation of historic masonry in New Orleans and South Louisiana, most notably the renovation and conservation of St. Louis Cemetery No. 1. Ms. Ewen reiterates the same opposition to the use of elastomeric or any other type of highly water resistant/waterproof paint to cover historic masonry assemblies in the Vieux Carre.

Dr. Eugene Cizek, Director - Historic Preservation Program, Tulane
University School of Architecture:

With over three (3) decades of teaching experience at the Tulane School of Architecture, Dr. Cizek has directed the preservation program since its inception. He is a licensed, practicing architect, and has personally directed the preservation of scores of historic masonry structures throughout the Gulf South. As with each of the other noted consultants, Dr. Cizek adds his opposition to the use of elastomeric and any other highly water resistant/waterproof paints for covering any historic masonry surface.

The VCC staff concludes that the scientifically-based, most appropriate treatment for the repair of historic masonry and stucco surfaces in the Vieux Carre is:

- 1. A gentle non-abrasive cleaning.
- 2. Professional, historic repair and replacement of mortars and stuccos with traditional lime mortars.
- 3. Painting/coating of any properly maintained masonry surface should not be necessary. Where painting is desired and approved, painting of any masonry or stucco finishes should be preferably done first with lime washes/paints and secondly with alkyd enamels.
- 4. Elastomeric, or any highly water repellant or specially constituted waterproof paint, should never be used on historic masonry structures in the Vieux Carre. Such unbreathable coatings inappropriately trap moisture inside the historic fabric, damaging the structural integrity of the masonry, and possibly resulting in the eventual growth of molds, mildew and/or even a toxic mold poisoning of the structure. [It must be noted that latex paint, while not as strong or as thick as an elastomeric coating, acts much the same way, as a plasticized covering. They are not as long-lasting therefore have not presented the same level of threat to the stability of historic masonry conditions.] And most importantly...
- 5. Essentially, all repairs to all historic assemblies are best accomplished by using historic materials to repair the existing historic fabric.

STAFF RECOMMENDATIONS:

04/12/05

Deny the application of elastomeric paint for its irreversibility, known hazards, and adamant recommendations against its use as noted in report above. Furthermore, the VCC staff offers its cooperation to the applicant to assist in finding an alternative solution. As mentioned in past reviews of this material, all repairs to all historic assemblies are best accomplished by using historic materials to repair the existing historic fabric.